

Does Imatinib affect arterial stiffness in patients with gastrointestinal stromal tumours?

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ABSTRACT

- Imatinib mesylate (Gleevec/Glivec) is a small-molecule inhibitor which blocks selectively the tyrosine kinase activity of c-abl, bcr-abl, platelet-derived growth factor receptor, c-fms and c-kit. It is widely used for the treatment of gastrointestinal stromal tumours (GIST).
- There is conflicting evidence regarding Imatinib cardiotoxicity; mainly linked in the past with congestive heart failure. The aim of the present study was to evaluate the effect of Imatinib on ejection fraction (EF) and arterial stiffness in patients with GIST.

METHODS

The study cohort included 18 consecutive patients treated for GIST in our clinic for the first time. Patients mean age 67±6, were initiated to Imatinib as monotherapy.

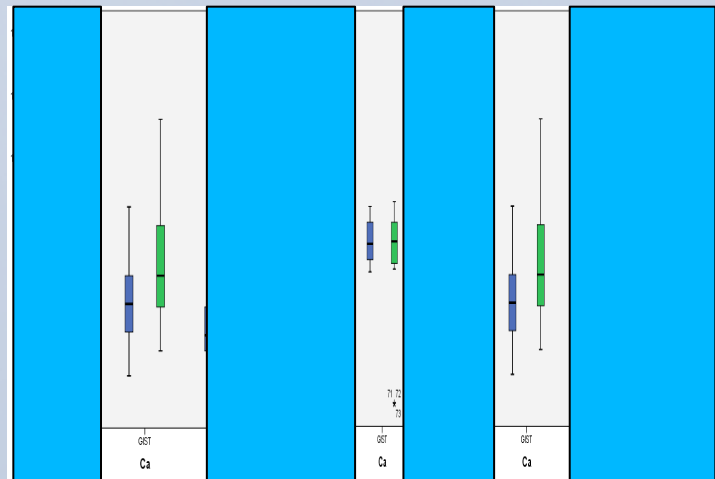
Mean systolic and diastolic blood pressure (SBP) (DBP) were 126±12mm Hg and 72±7mm Hg respectively. All patients underwent full laboratory evaluation before and after 6 cycles of chemotherapy. Arterial stiffness evaluation pre and post chemotherapy was done via measurement of Augmentation Index (Aix75) (Sphygmocor SP) and pulse wave velocity carotid-radial and carotid-femoral (PWVc-r, PWVc-f) (Complior device).



RESULTS

Baseline EF was within normal range 58±4 and no significant change was identified post chemotherapy (P=NS). Aix75 was not significantly changed pre and post chemotherapy (P=NS), however both PWVc-r and PWVc-f were significantly increased post chemotherapy. After multivariate analysis was performed findings remained unchanged.

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CONCLUSIONS

In a small cohort of patients, Imatinib did not cause any congestive heart failure symptoms, however there was a clear increase in the reflected wave forms as documented by the PWV analysis. This potentially indicates a different aspect of cardiovascular side effects of Imatinib. Larger studies need to be performed before drawing a safe conclusion

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